① Mr Stock. (I have sent another copy to Mr Straith).
② W.P.S Pvs.

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RESTRICTED

HOME OFFICE,
Civil Defence Department,
Intelligence Branch.

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C.D. INFORMATION BULLETIN NO. 1/1955

Subject: Publicity given in the United States of America to Radioactive Fall-out

1 EARLY IMPRESSIONS

By way of introduction we can say that the radioactive effect of atomic weapons has been of continuing interest to the American public since the first atomic bombs were dropped in 1945. Americans, having become fairly used to the idea of radiation, took no more than a passing interest in the story of the crew of the Japanese fishing boat "The Fortunate Dragon" and of the Marshall Islanders who experienced a noxious fall-out during the Pacific tests in the Spring of 1954. What was not known or expected, however, was the strong probability that the wide-spread fall-out of noxious particles was no mere accident but an inherent characterestic of the new kind of hydrogen bomb. Official sources, apart from commenting on the increased power of the bomb, gave no hint of this but rather stressed the twin characteristics of heat and blast, particularly the first of these. Furthermore, the impression given was that intensive radioactivity might be achieved only by using a cobalt layer to form active cobalt dust.

2 FIRST DOUBTS VENTED IN THE PRESS

Paradoxically, it was Sir Winston Churchill's statement in the House of Commons that "tremendous changes have taken place in the whole strategic position in the world which make the thoughts which were well founded and well knit together a year ago utterly obsolete", that set the ball rolling in the American Press. Columnists Joseph and Stewart Alsop on August 11, 1954, referring to this statement said that the Prime Minister had used the new phenomenon of fall-out to justify the abandonment of Britain's Suez Base and drew the inference that the difference between the hydrogen bomb and the other absolute weapons was that the new bomb produced a cloud of fairly heavy particles the fall-out of which took place immediately and locally while they were still dangerous to life. Added interest was given to this statement by newspaper reports from Tokio that Japanese scientists had almost exlusive evidence that the Russians had recently exploded a hydrogen bomb.

3 FIRST INDICATION OF OFFICIAL INTEREST

The first reference to the dangers of radioactive dust was given at the end of September by Governor Peterson, Federal Civil Defense Administrator, who recommended that farmers refurbish their cyclone and storm cellars to provide the best protection.

4 EFFECT OF SOVIET H-BOMB TESTS PUBLICISED IN JAPAN

Japan's Atomic Injuries Investigation Committee, September 1954, issued a nation-wide warning against drinking unfiltered rain water or water from lakes and catchments because of strong radioactivity found recently in rain water in many parts of Japan. The situation had been attributed to Soviet hydrogen bomb tests in Siberia.

5 PUBLIC STATEMENTS BY U.S. SCIENTISTS

Early in October, Dr. Lapp one of the men who helped develop the atom bomb and now Director of the Nuclear Science Service, deprecated in a public statement the atomic secrecy which prevented American Civil Defense telling the facts. Later in October, Dr. Lapp, in a public speech said that shelter of 20-30 ins. of hard-packed earth overhead would be sufficient to protect against a fall-out and suggested that one should stay in such a shelter for at least a day after the fall-out had ended. "The decay is rapid" he said.

"How long a fall-out area would be uninhabitable for permanent occupancy is something that needs a lot of study. The Government should come out in the open, face this problem and find the answers".

Other scientists have been making similar assertions in public.

6 FIRST OFFICIAL STATEMENT BY F.C.D.A.

The first recorded official statement was Governor Peterson's speech in New York City October 20, before the Union League Club. He said that wind-borne radioactive matter would make all areas vulnerable to hydrogen bomb blasts in the event of an enemy attack. "If this attack comes, everybody will be subject to it". Radioactive fall-out was the newest major problem civil defence faced, Governor Peterson declared in an interview on October 21. Pointing out that the fall-out danger, resulting from the particles of dirt and rock radioactivized in an H.-bomb explosion, sucked up 40,000 to 50,000 feet and carried by winds aloft miles from the explosion point before falling back to earth, meant that people living in small cities and rural areas must prepare their own home defence. "Every farmer should have a cyclone cellar - the type of thing you used to see on every farm to store fruit, eggs and milk", the Administrator said, adding that three feet of dirt overhead was the best defence there was against radioactive fall-out. He said "the evidence is that the danger of radioactive particles does not remain for any lengthy period after they have fallen, but every person should store enough simple provisions to stay in an underground shelter for two or three days. So important is the problem in CD planning, that the weatherman - the person with information on prevailing wind currents, speed and the like - is becoming an increasingly important aid in CD preparations. Still of primary importance in CD planning are adequate warning time and evacuation of probable major target areas, but the matter of radioactive fall-out has added another dimension to CD thinking." "More people must become radioactive conscious," Peterson concluded.

7 A.E.C. AUTHENTICATED STATEMENTS

On October 26, the Press revealed that careful study of the mass of data obtained from the recent Pacific H-bomb tests indicated the blasts "are far less powerful" than reported in "first, semi-hysterical accounts". Referred to is a speech by Dr. Bugher, Director of A.E.C's. Division of Biology and Medicine and an article in the Bulletin of Atomic Scientists by Harold Knapp, both reviewed by the A.E.C. before being approved. According to a Press comment, Dr. Bugher's report tended to minimise the danger of radiation death. (At a recent meeting of the N.A.T.O. Civil Defence Committee, Governor Peterson stated that Dr. Bugher's report had received official backing and was of first importance.)

8 STATE C.D. DIRECTORS ENTER INTO THE CONTROVERSY

Various CD Directors were drawn into making statements about exposure to radiation and radiological experts suggested that Russia's opening attack on the U.S. could take the form of an "accidental" release from off-shore submarines of deadly radioactive particles into the atmosphere and waters of the West Coast.

9 A.E.C. CONFIRM SOVIET EXPERIMENTS AND FALL-OUT IN U.S.A.

The A.E.C. confirmed, October 26, that the Soviet Union had been conducting a series of nuclear experiments since the middle of September and discussed that some radioactive materials from the Soviet tests had fallen on the U.S. but not in significant amounts.

10 FURTHER STATEMENTS BY DR. LAPP

November 4, Dr. Lapp declared that fall-out from one bomb could be fatal within twelve minutes from radioactive dust to every exposed person in a 250 square mile area and that the danger might include 4,000 square miles. Lapp, writing in the November issue of the Bulletin of the Atomic Scientists, said new CD plans call for shelters in huge peripheral areas around major cities to protect persons caught down-wind while evacuating in the face of H-bomb attacks.

11 PRESS ACTIVITY INCREASES DURING LAST SIX WEEKS OF 1954; EXAMPLES

(a) "The Periscope," regular feature in "Newsweek" magazine, contained items of interest: "Whether the public should be told the truth about the devastating radioactive fall-out from H-bomb explosions is the subject of a bitter behind-scenes argument between the A.E.C. and the C.D.A. One estimate now is that the H-bomb tested last March at Eniwetok rendered uninhabitable an elliptical area of 4,000 square miles - nearly the size of Connecticut - downwind from the blast." "A controversy is simmering (in the National Security Council) similar to the 1949 one over whether to make the H-bomb. Some planners want to push development of radiological warfare - the spreading of deadly radioactive materials behind enemy lines by means other than bombs. Opposing them are several top leaders who feel that 'RW' is morally indefensible."

(b) Columnists Joseph and Steward Alsop in a series of reports on the radiological hazard (November 24) began with the statement that "A grave debate - the gravest since the debate on whether to make the hydrogen bomb - is now going on behind closed doors in the highest Government circles. Primarily, this debate is concerned with whether the 'super-super' - a hydrogen bomb expected to develop several times the monstrous power of the great bomb exploded at Eniwetok last spring - should be tested. In a more general sense, the debate is also concerned with whether this country is right to rely on the hydrogen bomb as its principal offensive weapon. Both issues are related directly to the danger to human life inherent in the radiological side - effects of the new type of hydrogen bomb....." They then repeat the published facts regarding the three types of radioactivity: local fall-out, distant fall-out, and general radioactivity. In the second of their series of articles on the radiological hazard they declared it was now possible to build a hydrogen bomb so monstrously powerful that it would pass "the limit of blow-out". They asserted that this was the point beyond which any increase in the power of the bomb was dissipated in the upper atmosphere. "Beyond this point, there is no increase whatsoever in lateral destructiveness. Physicists estimate the limit of blow-out at around fifty megatons, meaning a bomb with about 25,000 times the power of the bomb that destroyed Hiroshima."

(c) "There is now, in the inner circles of government, continuing and anxious debate about whether the "super-Super", as the bomb capable of passing the limit of blow-out is known, ought to be built and tested. For the plain fact is that no one can be really certain what such a terrible weapon might do. Scientists fear that the "super-super" might have unpredictable far-reaching radiological side-effects."

(d) "The strategy of massive retaliation might involve the explosion of five hundred or five thousand bombs such as the great bomb tested at Eniwetok last spring. May we not, therefore, be placing too much reliance on a weapon with a suicidal backlash, a weapon which, used in quantity, might destroy ourselves as well as the enemy?"

(e) "Qualified sources, such as British Prime Minister Sir Winston Churchill and Dr. Edgar Adrian, British Nobel Prize Winner, believe that an "undue number" of hydrogen bombs would have "very serious effects" on the whole world."

(f) "But the official policy in the United States is still to put the radiological hazard under classification wraps. Civil Defense Administrator Val Peterson has been one of a minority of officials urging a policy of telling the American people what is already known to the Russians. Unless basic facts of radioactive fall-out are officially acknowledged, civil defense cannot even begin to make sense."

(g) "The terrible nature of the radiological hazard has already begun deeply to affect the thinking of President Eisenhower and the policy of the United States. But in this democracy, any policy must have the support of the people. And the people are not apt to give much support to a policy if the facts on which it is based, and which are well known to the Soviets, are hidden from them."

(h) "President Eisenhower warned December 2 that United States cities were front-line targets for modern weapons "capable of such destruction as to appall the imagination." The President called for closer municipal-Federal cooperation in civil defense planning as he welcomed about 240 mayors, city managers and other local officials to a two-day conference in Washington. F.C.D.A. Administrator Val Peterson expanded on the President's warning in a guarded discussion of radioactive "fall-out" a phenomenon that adds a new dimension to the terror of thermonuclear bombs."

(i) New York Post editorial of December 14 took note of rumours published in the Japanese press as to the seriousness of injuries to accidental victims of the world's first H-bomb explosion, making the point that the subject of radiation "is surrounded with the strictest kind of hush-hush..... It is entirely possible that the data now at hand is inconclusive. But surely it is time for official candor. In the absence of candor the scare will spread. If there is any evidence indicating that humanity is slowly crippling itself by playing around with nuclear weapons, it can hardly be long suppressed. There is every reason for an authoritative statement from the White House now as to what we know - and don't know - about this ghoulish topic."

(j) Chairman Lewis L. Strauss of the A.E.C. said on December 15, that the U.S. was "making very rapid and satisfactory progress" and continued to lead Russia in the nuclear weapons field. He made the statement in a copy-righted interview with the magazine U.S. News and World Report. Strauss also was asked whether the world was getting more radioactive as more and more atomic tests are conducted. The A.E.C. Chairman replied, "Yes, but not significantly," and he added: "Ever since the first atomic bomb was tested .... infinitesimal amounts of radioactivity have been distributed around the world. I am advised by those who know that the radiation dose from fall-out is many times less than the dose rate due to cosmic rays." (AP-Wash. Star, U.S. News and World Report) ..... A.E.C. Chairman Strauss took the optimistic view about the outcome of nuclear warfare. Offering his views as the adult guest on the New York Times Youth Forum, Strauss said he did not believe such warfare would destroy the earth or civilization. "I believe that man will control the atom long before he learns to control himself."

E.R.

File 56.

TOP SECRET

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MR. STOCK

Mr. Allen of the Scientific Adviser's Branch of the Home Office left with me yesterday the attached curves which are of interest in connection with our discussions on evacuation. The curves are related to the dose received on the one thousand roentgen per hour at one hour contour. The bottom curve shows the radiation dose which a person would receive if he remained in a shelter up to 48 hours after the shot. Curve A indicates the additional dose which such a person would receive if an attempt were made to leave the shelter and cross into an uncontaminated area 8 miles away. Curve B shows the total dose which would be received if the person attempted to move to an uncontaminated area 23 miles away. The diagram does not state the assumption about the time which it would take to cover these distances, but it seems to me that these curves put movement out of shelters into uncontaminated areas within at any rate 48 hours of the shot at a very high discount. One is confirmed in this view when one considers the state of confusion that may well exist about the actual contours of radiation activity that may prevail at the time.

These curves should be useful when we come to consider General Kirkman's paper on evacuation.

(W. STRATH)

14th January 1955

Brig Goodwin. This may be worth reproduction. I suggest that shelter problems be given as a subject for study & circulation to one member of this Secretariat (Primarily) – perhaps Mr Robertson or Commander Wilmot.

Lond. 14/1.